REMARKS

Claims 13-42 and 45-56 were pending in this application. In response to the Office Action dated December 21, 2004, claims 13-42 and 45-56 have been canceled and new claims 57-98 have been added. Care has been exercised to avoid the introduction of new matter. Adequate descriptive support for the present Amendment should be apparent throughout the originally filed disclosure as, for example, the depicted embodiments and related discussion thereof in the written description of the specification. Applicants submit that the present Amendment does not generate any new matter issue. Entry of the present Amendment is respectfully solicited. It is believed that this response places this case in condition for allowance. Hence, prompt favorable reconsideration of this case is solicited.

The specification has been checked for minor errors and Applicants submit that no corrections are necessary at the present time.

Claims 13, 34 and 45-48 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tower et al. (U.S. Pat. No. 6,020,628, hereinafter "Tower") in view of Grossinger et al. (U.S. Pat. No. 5,712,622, hereinafter "Grossinger") and Silvestrini et al. (U.S. Pat. No. 4,323,619, hereinafter "Silvestrini").

Claims 14 and 51-55 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tower in view of Grossinger, Silvestrini and Scherber et al. (U.S. Pat. No. 4,708,419, hereinafter "Scherber").

Claims 15, 16, 49 and 50 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tower in view of Grossinger and Silvestrini, and further in view of Carnall, Jr. et al. (U.S. Pat. No. 3,131,238, hereinafter "Carnall").

Claims 17, 18 and 56 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tower in view Grossinger, Silvestrini and Scherber, and further in view of Carnall.

Claims 19, 20, 49 and 50 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tower in view Grossinger and Silvestrini and further in view of Roy et al. (U.S. Pat. No. 3,974,249, hereinafter "Roy").

Claims 21, 22 and 56 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tower in view of Grossinger, Silvestrini and Scherber, and further in view of Roy.

Claims 13, 14, 23, 24, 28 and 29 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Castleman (U.S. Pat. No. 6,153,881) in view of Grossinger and Silvestrini

Claims 25-27 and 30-33 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Castleman in view of Grossinger and Silvestrini and further in view of Erismann (U.S. Pat. No. 5,818,337).

Claims 35, 36 and 38-40 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Castleman in view of Grossinger and Silvestrini and further in view of Adachi et al. (U.S. Pat. No. 4,302,674, hereinafter "Adachi").

Claims 37, 41 and 42 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Castleman in view of Grossinger, Silvestrini and Adachi and further in view of Erismann.

Applicants respectfully traverse each of the rejections under 35 U.S.C. § 103(a) identified above for the reasons set forth *infra*. Claims 13-42 and 45-56 have been canceled and, therefore, the above rejections under 35 U.S.C. § 103(a) are moot. Moreover, new claims 57-98 have been added and Applicants submit that new claims 57-98 are free from the applied art. Applicants submit that none of the applied references, alone or in combination, teaches or remotely suggests the claimed subject matter of claims 57-98.

Independent claim 57 describes a ceramic infrared sensor, having a lens body, comprising ceramic, a supporting part, which supports the lens body, and a detection part, which detects the light that has been transmitted through the lens body. A pigment that shields visible light is contained in the lens body.

Independent claim 60 describes a ceramic infrared sensor, having a lens body, which is comprised of a ceramic part and a resin layer that covers at least the light receiving surface of the ceramic part, a supporting part, which supports the lens body, and a detection part, which detects the light that has been transmitted through the lens body. A pigment that shields visible light is contained in the resin layer of said lens body. A light-shielding ratio of the lens body, Ti/Tv, is greater than the product of the light-shielding ratio of the ceramic part and that of the resin part, and Ti is the linear transmittance of light of 8 to 12 μm wavelength and Tv is the linear transmittance of 830 nm laser beam.

Independent claim 62 describes a ceramic infrared sensor, having a lens body, which is comprised of a ceramic part and a resin layer that covers at least the light receiving surface of the ceramic part, a supporting part, which supports the lens body, and a detection part, which detects the light that has been transmitted through the lens body. A pigment that shields visible light is contained in the ceramic part and the resin layer of said lens body. A light-shielding ratio of the lens body, Ti/Tv, is greater than the product of the light-shielding ratio of the ceramic part and that of the resin part, and Ti is the linear transmittance of light of 8 to 12 μm wavelength and Tv is the linear transmittance of 830 nm laser beam.

Tower discloses a sensor comprising a ceramic lens, a supporting part, and a detection part. Grossinger discloses an optical element in which visible light is shielded by pigment particles and Silverstrini discloses a perfect dispersion of a pigment. Applicants submit that

Tower fails to disclose a ceramic lens containing any pigment. Moreover, in Grossinger and Silverstrini, the base ingredient is a resin, such as polyethylene, however, neither discloses a ceramic containing a pigment such as one disclosed in new claim 57. Although the Examiner asserts that one of ordinary skill in the art would have applied the techniques set forth in Grossinger and Silverstrini to the technique set forth in Tower, Applicants submit that unlike resins, ceramics rarely allow perfect dispersion of minute amounts of additives. Thus, a person skilled in the art would not have been easily successful in attempting such a technique. In fact, the Examiner's attention is directed to Example 1 of the present specification, wherein special techniques are necessary in order to disperse pigment particles in ceramics. It is well established that the requisite motivation to support an ultimate legal conclusion of obviousness under 35 U.S.C. § 103 is not an abstract concept, but must stem from the applied prior art as a whole and have realistically impelled one having ordinary skill in the art to modify a reference or combine references to arrive at the claimed invention. *In re Deuel*, 51 F.3d 1552, 34 USPQ2d 1210 (Fed. Cir. 1995); *In re Newell*, 891 F.2d 899, 13 USPQ2d 1248 (Fed. Cir. 1989). Further, it is well settled that the recognition of the source of a problem constitutes evidence of nonobviousness. *In re Sponnoble*, 405 F.2d 578, 160 USPQ 237 (CCPA 1969). Thus, Applicants submit that one having ordinary skill in the art would not have been realistically impelled to modify Tower's sensor with Grossinger and Silverstrini to arrive at the claimed invention. Instead, the only place where this motivation can be found in is Applicants' disclosure, which, of course, is forbidden territory for the Examiner to obtain the requisite motivation to combine the references. *Panduit Corp. v. Dennison Mfg. Co.*, 774 F.2d 1082, 227 USPQ 337 (Fed. Cir. 1985).

With respect to dependent claim 58, the Examiner's attention is directed to Example 1 of the present specification, wherein dispersion techniques A, B, and C were tested. Techniques A

and C did not achieve sufficient dispersion. Technique B of preliminarily grinding and mixing a pigment in a ball mill and then subjecting the mixture to dry milling in a ball mill is superior to the others, and achieves a Ti/Tv > 300 for the same system. See also, Tables 1 to 3.

With respect to independent claims 60 and 62, Applicants submit that claims 60 and 62, as well as their respective dependent claims are free from the applied art. In the ceramic infrared sensor of claim 60, the resin layer contains a pigment and the ceramic part does not contain any pigment. In the ceramic infrared sensor of claim 62, the resin layer and ceramic part both contain a pigment. Moreover, claims 60 and 62 each discloses that the light-shielding ratio (Ti/TV, where Ti is the linear transmittance of light of 8 to 12 μm wavelength and Tv is the linear transmittance of 830 nm laser beam) of the lens body is greater than the product of the light-shielding ratio of the ceramic part and that of the resin part (i.e., Ti/Tv (lens) > Ti/Tv (ceramic part) x Ti/Tv (resin part)) due to tight adhesion between the resin layer and the ceramic part is introduced. Support for this claim limitation is found in Table 5 of Example 3 of the present disclosure. Neither, Tower, Grossinger, Silverstrini or Scherber, alone or in combination discloses the claimed reflection preventing function of the resin layer. As such, even if somehow the applied references were press fit together, the claimed invention would not result. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988).

It is believed that all pending claims are now in condition for allowance. Applicants therefore respectfully request an early and favorable reconsideration and allowance of this application. If there are any outstanding issues which might be resolved by an interview or an Examiner's amendment, the Examiner is invited to call Applicants' representative at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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